



A distinctive new subspecies of the Royal Sunangel (Aves: Trochiliformes; *Heliangelus regalis*) from the Cordillera Azul, northern Peru

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Abstract

A recently discovered and morphologically distinct population of the poorly known Royal Sunangel from the Cordillera Azul, Department of Loreto, Peru, is described as a new subspecies, *Heliangelus regalis johnsoni*. Males of *johnsoni* differ from those of nominate *regalis* in exhibiting intense indigo iridescence, particularly on the crown, throat and upper breast.

Key words: Cordillera Azul, *Heliangelus regalis johnsoni* new subspecies, hummingbirds, Loreto, Peru, Royal Sunangel

Introduction

The Andean region from southern Ecuador (3° S latitude) to northern Peru (8° S latitude) hosts one of the world's most diverse avifaunas (Rahbek & Graves, 2001), as well as the foremost concentration of avian species with small geographic ranges in South America (Graves & Rahbek, 2005). Despite more than 150 years of ornithological exploration in this region (Taczanowski, 1884; Chapman, 1926), several spectacular new species have been discovered in recent decades (O'Neill & Graves, 1977; Robbins, *et al.*, 1994; Krabbe, *et al.*, 1999; O'Neill, *et al.*, 2000), including two new hummingbirds (Fitzpatrick, *et al.*, 1979; Graves, 1980). Although the geographic ranges and taxonomy of hummingbirds inhabiting the main axis of the Andes in northern Peru and southern Ecuador are relatively well known (Parker, *et al.*, 1985; Fjeldså & Krabbe, 1990; Rahbek & Graves, 2000; Ridgely & Greenfield, 2001; Schulenberg, *et al.*, 2007), the composition of hummingbird assemblages from outlying ridges on the Amazonian versant is still poorly known (Davis, 1986; Seddon, *et al.*, 1996; Schulenberg & Awbrey, 1997; Hornbuckle, 1999; Schulenberg, *et al.*, 2001).

In April 2000, a joint expedition from the Museum of Natural Sciences, Louisiana State University (LSUMZ) and Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos (MUSM) surveyed the montane avifauna of the Cordillera Azul between the Huallaga and Ucayali rivers, Department of Loreto, Peru (Schulenberg, *et al.*, 2001). Surprisingly, the commonest species of hummingbird observed in the stunted ridgetop forests (1300–1700 m) was the Royal Sunangel (*Heliangelus regalis*), which at the time was known from four restricted sites in northern Peru (Fitzpatrick, *et al.*, 1979; Davis, 1986; Seddon, *et al.*, 1996; Hornbuckle, 1999). The Cordillera Azul population represents a new strikingly distinctive subspecies.

Methods

Heliangelus regalis was previously known from 16 specimens collected at the type locality in the Cordillera del Cóndor (Department of Cajamarca; E side of ridge ENE above San José de Lourdes, 1950–2200 m; Fitzpatrick, *et al.*, 1977) and from two specimens obtained on an isolated ridge east of Moyobamba (Department of San Martín: ca 20 km by trail NE Jirillo on trail towards Balsapuerto; Davis, 1986). We compared the newly collected speci-